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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,851	12/21/2000	Chifei Wei Cheng	CISCP648	2199

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EXAMINER	
PATEL, HARESH N	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/745,851	CHENG, CHIFEI WEI	
	Examiner	Art Unit	
	Haresh Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are presented for examination.

Response to Amendment

2. The amendment filed 07/12/2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

1) Deletion of "from the peer device", by the amendment instructions, dated 7/12/04, i.e., please replace the paragraph beginning at the bottom of page 14, line 23, and continuing on to page 15, with the following amended paragraph: The sequence of steps executed by the device while in state 4 in response to a DL-ESTABLISH request message ~~from the peer device~~ will now be described. In particular, at step 126, the device transmits a DISC message (a disconnect request message) with the P bit set to 0 to the peer device to inform the peer device that the device's layer 2 was down and instructs the peer device to release the previously established SVCS. The device also starts the retransmission timer T200 at step 128, sets the AWAITING UA/DM flag to 1 at step 130, and performs the "Sets Layer 3 Initiated" step as known in the art at step 132. Steps 126-132 need not be performed in the sequence shown and may be performed in any desired suitable sequence.

Applicant is required to cancel the new matter, i.e., retain the original paragraph, to avoid abandonment of this application, in the reply to this Office Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA, Application specification pages, page 1, line 6 – page 2, line 5) in view of Mike Fontenot, MCI, e-mail, SVC Layer 2 Disconnect, Private Communication regarding SVC layer 2 Disconnect, April 20, 1998, IDS, paper number 7 (Hereinafter MCI) and "Official Notice".

5. As per claims 1-20, AAPA teaches the following:

a method, a computer program product, a first device and an apparatus for a first device to establish a link between the first device and a second device, comprising,

a first device, a second device, communication between two devices, messages to connect, disconnect, acknowledge, etc., ITU Recommendation Q.921 defined messages, i.e., a DISC (disconnect) message, SABME message for requesting establishment of the link, transmitting a Q.921 disconnect request message from the first device to the second device, disconnect request message comprises a DISC message as specified by ITU Recommendation Q.921, ITU Recommendation Q.922 (e.g., figures 1 and 2, The present invention relates generally to a system and method for extending the ITU Q.922 LAPF (link access procedures for Frame Mode bearer services) virtual circuit disconnect logic. More specifically, a system and

method for extending and modifying the ITU Q.922 LAPF disconnect logic to remedy or alleviate instances of unsynchronized virtual circuit establishment are disclosed, Frame Relay is a packet switching protocol for connecting devices on a wide area network (WAN). Frame Relay operation is in part specified by ITU Recommendation Q.922 (Geneva, 1992) entitled "ISDN Data Link Layer Specification For Frame Mode Bearer Services" published by the ITU. Recommendation Q.922 relates to the Digital Subscriber Signaling System No. 1 (DSS 1) data link layer and specifies the frame structure, elements of procedure, format of fields and procedures of the data link layer to support frame mode bearer services in the user plane (L1-plane) as defined in ITU Recommendation 1.233 (frame mode bearer services), Recommendation Q.922 contains a deficiency in that it is possible to have instances of unsynchronized SVC establishment due to one device going through system reboot and shutting down all active SVCs while a peer device believes that these SVCs are still active. To mitigate this deficiency, it has been suggested that, at the first attempt of bringing up the L2 (layer 2) link during system re-initialization, a DISC (disconnect), message be transmitted prior to the specified transmission of a SA13ME (Set Asynchronous Balanced Mode Extended) message. The SABME message is in essence a message for requesting establishment of the link. The SABME and DISC messages are defined by ITU Recommendation Q.921. According to this proposed solution, the DISC message is transmitted in all situations in which link layer services (LAPF) are restarted, page 1, line 6 – page 2, line 5).

However, AAPA does not specifically mention about resolving the problem of data link reestablishment.

MCI teaches the following:

transmitting a Q.921 disconnect request message from the first device to the second device in response to a management plane data link establish establishment request; and thereafter to fulfill said data link establishment request, transmitting a Q.921 request for connection to establish link message from the first device to the second device upon any of expiration of an awaiting-response timer, receiving a Q.921 disconnect mode message from the second device which is in Q.222 state 4 or state 5, or receiving an a Q.921 acknowledgement message from the second device, the disconnect request message transmitted by the first device to the second device includes a poll bit, an awaiting-response-to-the-disconnect-message flag, after transmitting the disconnect request message to the second device and upon receiving an acknowledgement message from the second device, determining if the awaiting-response-to-the-disconnect-message flag is set, wherein the fist device transmits the request for connection to establish link (e.g., Subject: SVC Layer 2 Disconnect, I talked to the Frame Relay Forum member who developed the Data Link Reset contribution. The suggested mechanism presented in this contribution will be included in Annex D of FRFA.I . I've included the text from Annex D below. It is recommended that the Disconnect be sent in all situations in which LAPF is restarted, including cold boots, warm boots, slot resets, NMS intervention, and physical outages. There is one exception to issuing the Disconnect. In the case where the remote side stops responding to RRs, the local side will send 4 RRs, 4 SABMEs, will disconnect any active connections, and then may send periodic SABMEs. The remote side may respond to one of the periodic SABMEs and initialize LAPF. In this case LAPF will be initialized without the issuance of a layer 2 disconnect, Annex D below refers to Annex B restart procedures. These restart procedures are based on X.36 and are not supported in an FRFA Q.933 based implementation,

ANNEX D SYSTEM REINITIALIZATION PROCEDURES, The preferred method of resetting the UNf is to use the RESTART procedures in Annex B. However, in some cases the peer device may not downlevel or not have implemented the RESTART procedures in this agreement. As an option, devices that have lost all SVC calls (e.g., due to system re-initialization, or other events) may send a DISC P=I to the peer and wait for a UA F=1 after system re-initialization and before they proceed with data link re-establishment (e.g., SABME/UA, etc.). This action will trigger a DLRELEASE INDICATION to the peer layer 3 which causes the peer layer 3 to clear all SVC calls. In addition, it is strongly recommended that such devices support and use the RESTART procedures immediately following data link re-establishment, Thanks Mike, i.e., Mike Fontenot, MCI, e-mail, SVC Layer 2 Disconnect, Private Communication regarding SVC layer 2 Disconnect, April 20, 1998, IDS, paper number 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of AAPA with the teachings of MCI in order to facilitate proper disconnection between the two devices by removing all connection settings using a sequence of messages before a connection is reestablished.

However AAPA and MCI do not specifically mention about the minor details that are used for proper disconnection between two devices, i.e., a poll bit set to 0, setting an awaiting-response-to-the-disconnect-message flag, the first device to transmit the request for connection to establish link message to the second device upon receiving an acknowledgement message from the second device only if the awaiting-response-to-the-disconnect-message flag is set. "Official Notice" is taken that both the concept and advantages of providing the mechanism, i.e., setting bit and flag of messages and message orders for proper disconnection is well known and

expected in the art and would be an obvious design choice to set poll bit, an awaiting-response-to-the-disconnect-message flag and a message sequence between two devices before a reconnection is done.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include setting a poll bit, an awaiting-response-to-the-disconnect-message flag and establishing a message sequence between two devices with the teachings of AAPA and MCI in order to facilitate proper disconnection between the two devices by removing all connection settings using a sequence of messages before a connection is reestablished.

Response to Arguments

6. Applicant's arguments filed 7/12/04 have been fully considered but they are not persuasive. Therefore, rejection of claims 1-20 is maintained.

Applicant argues (1) Combination of MCI and AAPA teachings do not disclose "the first device allow for the possibility of the second device returning a disconnect mode message when it is in Q.922 state 4 or state 5. This feature is also neither disclosed nor suggested by the art of record. The cited private communication assumes that the UA (unnumbered acknowledgement) message is the only possible response from the second device. ("As an option, devices that have lost all SVC calls . . ... may send a DISC P=1 to the peer and wait for a UA F=1 after system re-initialization and before they proceed with data link re-establishment . . .." The cited private communication thus does not allow for the possibility that the second device is in Q.922 state 4 or state 5 which require the sending of a DM (disconnect mode) message in response to a disconnect message". The examiner disagrees in response to applicant's arguments. Lines 7-9,

page 2 of the specification states, "What is needed is a system and method for extending and modifying the ITU Q.922 LAPF disconnect logic to better remedy or alleviate instances of unsynchronized SVC establishment", which is different than the claimed subject matter. Considering the statements, at lines 4-8, page 21 of the specification, "While the preferred embodiments of the present invention are described and illustrated herein, it will be appreciated that they are merely illustrative and that modifications can be made to these embodiments without departing from the spirit and scope of the invention. Thus, the invention is intended to be defined only in terms of the following claims", the claimed subject matter is not limited to the specification, unless the claimed subject matter itself includes the necessary parts of the specification. Also, the claims are interpreted in light of the specification; limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). MCI and AAPA, discloses "the first device allow for the possibility of the second device returning a disconnect mode message when it is in Q.922 state 4 or state 5", e.g., AAPA, page 1, line 6 – page 2, line 5, and, MCI, Single page, April 20, 1998, IDS, paper number 7). Therefore the rejection in maintained as disclosed above.

Applicant argues (2) Combination of MCI, AAPA and "Official Notice", do not disclose "the disconnect request message has a poll bit set to zero". The examiner disagrees in response to applicant's arguments. It is well-known in the art, for example, Brown et al., 6,587,464, discloses use of a poll bit, which is set to zero, e.g., col., 6, lines 40-56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include setting a poll bit with the teachings of AAPA and MCI in order to facilitate proper disconnection between

the two devices by removing all connection settings using a sequence of messages before a connection is reestablished.

Applicant argues (3) Combination of MCI, AAPA and "Official Notice", do not disclose "If the peer device responds to the disconnect request message with a disconnect mode (DM) message, Q.922 operation will require the flag bit of that response to be set the same as the poll bit Of the disconnect request. Now when the first device receives a DM message with flag bit set to one, Q.922 state machine operation will not permit the link establishment process to start. See, for example, step 172 in Fig. 48 which shows that link establishment is bypassed when the received flag bit is set to one". The examiner disagrees in response to applicant's arguments. Lines 7-9, page 2 of the specification states, "What is needed is a system and method for extending and modifying the ITU Q.922 LAPF disconnect logic to better remedy or alleviate instances of unsynchronized SVC establishment", which is different than the claimed subject matter. Considering the statements, at lines 4-8, page 21 of the specification, "While the preferred embodiments of the present invention are described and illustrated herein, it will be appreciated that they are merely illustrative and that modifications can be made to these embodiments without departing from the spirit and scope of the invention. Thus, the invention is intended to be defined only in terms of the following claims", the claimed subject matter is not limited to the specification, unless the claimed subject matter itself includes the necessary parts of the specification. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies "If the peer device responds to the disconnect request message with a disconnect mode (DM) message, Q.922 operation will require the flag bit of that response to be set the same as the poll bit Of the

disconnect request. Now when the first device receives a DM message with flag bit set to one, Q.922 state machine operation will not permit the link establishment process to start. See, for example, step 172 in Fig. 48 which shows that link establishment is bypassed when the received flag bit is set to one" are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore the rejection in maintained as disclosed above.

Applicant argues (4) Combination of MCI and AAPA teachings do not disclose "further details of the adaptation to the Q.922 connection logic including the use of an awaiting-response-to-the-disconnect message flag". The examiner disagrees in response to applicant's arguments. Lines 7-9, page 2 of the specification states, "What is needed is a system and method for extending and modifying the ITU Q.922 LAPF disconnect logic to better remedy or alleviate instances of unsynchronized SVC establishment", which is different than the claimed subject matter. Considering the statements, at lines 4-8, page 21 of the specification, "While the preferred embodiments of the present invention are described and illustrated herein, it will be appreciated that they are merely illustrative and that modifications can be made to these embodiments without departing from the spirit and scope of the invention. Thus, the invention is intended to be defined only in terms of the following claims", the claimed subject matter is not limited to the specification, unless the claimed subject matter itself includes the necessary parts of the specification. Also, the claims are interpreted in light of the specification; limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). MCI and AAPA, discloses "an awaiting-response-to-the-

disconnect message flag", e.g., AAPA, page 1, line 6 – page 2, line 5, and, MCI, Single page, April 20, 1998, IDS, paper number 7). Therefore the rejection in maintained as disclosed above.

Conclusion

7. The prior art made of record (mainly, applicant submitted IDS, e.g., ITU Recommendation Q.921, "ISDN User-Network Interface-Data Link Layer Specification", March 1993, ITU Recommendation Q.922, "ISDN Data Link Layer Specification for Frame Mode Bearer Services", 1992, and form PRO-892) and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is 703-605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 703-305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Haresh Patel

August 31, 2004

JOHN FOLLANSBEE
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